

Abstract

An efficient technique for generating accurate on-chip DC reference voltages is based on filtering a digital pulse modulated sequence in order to extract its average value encoding a DC level. A passive on-chip filter is used for simplicity with an all-digital modulator implementation. Modulation is proposed using pulse-width and preferably pulse-density modulation methods. The latter has the advantage of using a significantly smaller filter which translates into a smaller implementation and faster operational settling times. Many digital pulse modulation generators are proposed.